Remarks

1. Summary of the Office Action

In the office action mailed July 27, 2005, the Examiner objected to claim 24 on grounds that it was written as depending from claim 22. Further, the Examiner rejected claim 5 under 35 U.S.C. § 112 on grounds that the claim included the term "SIP communication" allegedly not used in the specification. Additionally, the Examiner rejected claims 1-7, 10-16, and 20 under 35 U.S.C. § 102 as being allegedly anticipated by U.S. Patent No. 6,769,000 (Akhtar), the Examiner rejected claims 21-24 under 35 U.S.C. § 102 as being allegedly anticipated by U.S. Patent No. 6,603,758 (Schmuelling), the Examiner rejected claims 18-19 under 35 U.S.C. § 103 as being allegedly obvious over a combination of Akhtar and Schmuelling, and the Examiner rejected claims 8, 9, and 17 under 35 U.S.C. § 103 as being allegedly obvious over a combination Akhtar and Cottingham.

2. Status of the Claims

Applicant has amended claim 24 to correct the clear typographical error noted by the Examiner. Applicant thanks the Examiner for noting this error and recognizing what Applicant intended.

Presently pending in this application are claims 1-24, of which claims 1, 12, 13, 21 and 23 are independent and the remainder are dependent.

3. Response to Claim Objection

As noted above, Applicant has amended claim 24 to correctly depend from claim 23 as the Examiner requested. Applicant has thus overcome the claim objection.

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4. Response to § 112 Rejection of Claim 5

As noted above, the Examiner rejected claim 5 under § 112 on grounds that the claim used the term "SIP communication" and that the term "SIP communication" was allegedly not mentioned or explained in the specification. Applicant respectfully traverses this rejection, because the term "SIP communication" was mentioned in the specification and because it is clear from the specification what "SIP communication" means. A SIP communication is a communication pursuant to the Session Initiation Protocol (SIP) as is well known in the art.

Applicant's specification describes blocking or allowing certain types of communications in a given logical layer (such as in a given IP subnet) of an access network. In this regard, the specification explains that one such type of communication is a SIP communication. *See, e.g.,* page 11, lines 2-5 ("the logic might bar outgoing SIP packets, so as to prevent a subscriber on the default subnet from initiating a session through use SIP signaling"); page 17, lines 1-2 ("a subscriber profile record might indicate whether a subscriber is allowed to engage in HTTP communications, FTP communications and/or SIP communications"); page 18, lines 23-25 (explaining that an authentication message " may provide the gateway with service qualifications for the subscriber, possibly conveyed in a markup language such as Diameter (e.g., BANDWIDTH=x bps, FTP=false, SIP=true, etc.))

Given that the specification makes clear what "SIP communication" is and describes allowing or disallowing SIP communications, Applicant submits that the § 112 rejection of claim 5 is improper and should be withdrawn.

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5. Response to § 102 Rejection Over Akhtar

As noted above, the Examiner rejected claims 1-7, 10-16, and 20 under § 102 as being allegedly anticipated by Akhtar. Applicant respectfully submits that this rejection is improper, because the Examiner has not established that Akhtar teaches each and every element of any of these claims as would be required to support an anticipation rejection under M.P.E.P. § 2131.

Independent claim 1 recites (i) allowing first and second subscribers to operate on an access network, (ii) receiving a first indication that the first subscriber has been authenticated by a first service provider and responsively assigning the first subscriber to operate in a first logical layer of the access network, (iii) receiving a first indication that the second subscriber has been authenticated by a second service provider and responsively assigning the second subscriber to operate in a second logical layer of the access network, (iv) handling communications in the first logical layer according to a first logic set, and (v) handling communications in the second logical layer according to a second logic set different than the first logic set. The sections of Akhtar that the Examiner cited do not teach this combination of functions.

At best, the portions of Akhtar cited by the Examiner teach that a service provider may own a single network that includes a home network service function (NSF) and a local service function (LSF) (each LSF providing connectivity for one or more access networks), that a user can roam between LSFs, that the service provider may include an AAA function for an LSF or just for an NSF, that an LSF can forward authentication requests to a user's home NSF AAA function, that each LSF and NSF may be a private subnet, that a combination of an NSF and multiple LSFs can be a virtual private network, and that a mobile node can engage in communications through its NSF. Yet none of the cited portions teach the presently claimed

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functions of assigning subscribers to operate in different logical layers of an access network responsive to their authentication by different service providers, and handling communications in the different logical layers according to different logic sets, particularly as recited in claim 1.

Because the Examiner has not established that Akhtar teaches the invention as particularly recited in claim 1, and in claims 2-7 and 10-11 through dependency from claim 1, Applicant submits that the anticipation rejections of claims 1-7 and 10-11 over Akhtar are improper and should be withdrawn.

In rejecting claim 12, the Examiner discussed only the elements of claim 1. However, claim 12 includes elements different from claim 1, and the Examiner has not asserted or established that Akhtar teaches the elements specifically recited in claim 12. For instance, the Examiner has not asserted or established that Akhtar teaches the functions of assigning subscribers to operate in different IP subnets of an access network responsive to authentication by different service providers, and handling communications in the different subnets according to different logic sets, particularly recited by claim 12.

Because the Examiner has not asserted or established that Akhtar teaches the elements particularly recited in claim 12, Applicant submits that the anticipation rejection of claim 12 is improper and should be withdrawn. Further, Applicant submits that the portions of Akhtar that the Examiner asserted teach the limitations of claim 1 also do not teach the limitations of claim 12. The fact that Akhtar mentions the concept of IP subnets (e.g., each NSF and LSF being a subnet and an LSF or access network having subnets) does not suggest the combination of functions recited in claim 12. Applicant also submits that the same is the case for claim 3, which depends from claim 1.

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In rejecting claim 13, the Examiner also only discussed the elements of claim 1. Yet claim 13 also includes elements different than claim 1, and the Examiner has not asserted or established that Akhtar teaches the elements specifically recited in claim 13. For instance, the Examiner has not asserted or established that Akhtar teaches the function of responding to a successful authentication response from a designated service provider by assigning a subscriber to operate in a designated layer of an access network set aside for subscribers that have been authenticated by the designated service provider.

Because the Examiner has not asserted or established that Akhtar teaches the elements particularly recited in claim 13, Applicant submits that the anticipation rejection of claim 13 is improper and should be withdrawn.

Applicant does not acquiesce in the rejections more specifically set forth with respect to the other dependent claims in this group, but Applicant submits that those rejections are moot in view of the foregoing.

6. Response to § 102 Rejections Over Schmuelling

As noted above, the Examiner rejected claims 21-24 under § 102 as being allegedly anticipated by Schmuelling. Applicant respectfully submits that this rejection is improper, because the Examiner has not established that Schmuelling teaches each and every element of any of these claims as would be required to support an anticipation rejection under M.P.E.P. § 2131.

At a minimum, for instance, the Examiner has not established that Schmuelling teaches restricting a client station to operate in a logical access-network layer associated with a service provider from which a successful authentication response message is received. Further, with

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respect to claims 22 and 24, the Examiner has not established that Schmuelling teaches (i) restricting a first client station to operate in a first logical access-network layer associated with a first service provider from which a first successful authentication response message is received and (ii) restricting a second client station to operate in a second logical access-network layer associated with a second service provider from which a second successful authentication response message is received.

Schmuelling teaches a system in which a device operating in a cable access network seeks to acquire an IP address. According to Schmuelling, if the device (per its MAC address) is registered with an authorized Internet Service Provider (ISP), then the cable access network assigns the device a routable IP address from a pool of addresses 333. On the other hand, if the device is not registered with an authorized ISP, then the cable access network assigns the device a non-routable IP address for use just in the local access network and the network allows the device to then seek ISP registration.

In rejecting these claims, the Examiner asserted that column 8, lines 15-67 of Schmuelling teaches the function of responding to an authentication response message by restricting a client station to communications in a logical layer of the access network associated with the service provider from which the authentication response message was received. Applicant respectfully disagrees. The cited portion of Schmuelling teaches blocking a rogue device from acquiring an IP address altogether but does not suggest that such blocking relates in any way to the ISP who might authenticate the device (e.g., that such blocking would occur for subscribers of a given ISP but not for subscribers of another ISP). Further, the cited portion teaches that if a device is registered with an ISP, the device will get a routable address selected

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from the address pool 333. However, the cited portion does not suggest having a respective logical access-network layer per ISP and thus does not suggest restricting a client station to communications in such a logical access-network layer, particularly as recited in Applicant's claims.

Because the Examiner has not established that Schmuelling teaches the elements particularly recited in claims 22-24, Applicant submits that the anticipation rejection of claims 22-24 are improper and should be withdrawn.

7. Response to § 103 Rejections Over Akhtar and Schmulelling

As noted above, the Examiner rejected claims 18-19 as being allegedly obvious over a combination of Akhtar and Schmuelling. Applicant respectfully traverses these rejections, since the Examiner has not established that the combination of Akhtar and Schmuelling discloses or suggests all of the limitations of any of these claims.

Claims 18 and 19 each depend ultimately from claim 13. As explained above, the Examiner has not asserted or established that Akhtar teaches the elements particularly recited in claim 13. Further, in rejecting claims 18 and 19, the Examiner has not asserted or established that Schmuelling makes up for this deficiency. Consequently, Applicant submits that the Examiner has not made out the requisite *prima facie* case of obviousness of claims 18 and 19, and thus Applicant submits that the rejections of claims 18 and 19 should be withdrawn.

Applicant does not acquiesce in the assertions that the Examiner made more specifically regarding claims 18 and 19 but submits that those assertions are moot in view of the foregoing.

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8. Response to § 103 Rejections Over Akhtar and Cottingham

As noted above, the Examiner rejected claims 8, 9, and 17 as being allegedly obvious over a combination of Akhtar and Cottingham. Applicant respectfully traverses these rejections, since the Examiner has not established that the combination of Akhtar and Cottingham discloses or suggests all of the limitations of any of these claims.

Claims 8 and 9 depend from claim 1. As explained above, the Examiner has not established that Akhtar teaches the invention as particularly recited in claim 1. Further, in rejecting claims 8 and 9, the Examiner did not assert or establish that Cottingham makes up for this deficiency. Consequently, Applicant submits that the Examiner has not made out the requisite *prima facie* case of obviousness of claims 8 and 9, and thus Applicant submits that the rejections of claims 8 and 9 should be withdrawn.

Claim 17 depends from claim 13. As explained above, the Examiner has not asserted or established that Akhtar teaches the elements particularly recited in claim 13. Further, in rejecting claim 17, the Examiner has not asserted or established that Cottingham makes up for this deficiency. Consequently, Applicant submits that the Examiner has not made out the requisite *prima facie* case of obviousness of claim 17, and thus Applicant submits that the rejection of claim 17 should be withdrawn.

Applicant does not acquiesce in the assertions that the Examiner made more specifically regarding claims 8, 9, and 17 but submits that those assertions are moot in view of the foregoing.

9. Conclusion

For the foregoing reasons, Applicant submits that all of the pending claims are in condition for allowance, and Applicant thus respectfully requests favorable reconsideration.

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Should the Examiner wish to discuss this case with the undersigned, the Examiner is welcome to call the undersigned at (312) 913-2141.

Respectfully submitted,

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